Amendments to the Claims:

A listing of the entire set of pending claims (including amendments to the claims, if any) is submitted herewith per 37 CFR 1.121. This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently amended) Method for driving a gas discharge lamp ~~(2)~~ with an alternating current, the method comprising ~~the steps of~~:

[[-]] generating a positive lamp current (I_P) with a positive current intensity ($|I_P|$) for a positive duration (τ_P);

[[-]] changing the direction of the lamp current; and

[[-]] generating a negative lamp current (I_N) with a negative current intensity ($|I_N|$) for a negative duration (τ_N);

wherein ~~a~~ duty cycle ($D = \tau_P/(\tau_P + \tau_N)$) differs from 50%; and

wherein ~~a~~ current ratio ($R = |I_P|/|I_N|$) differs from 1.

2. (Currently amended) ~~Method according to~~ The method of claim 1, wherein the average current (I_{AV}) is substantially equal to zero.

3. (Currently amended) ~~Method according to~~ The method of claim 1, wherein a lamp characteristic is changed by changing the duty cycle (D) and the current ratio (R), while the average current (I_{AV}) is maintained at a constant value.

4. (Currently amended) ~~Method according to~~ The method of claim 3, wherein the constant value of the average current (I_{AV}) is substantially equal to zero.

5. (Currently amended) ~~Method according to~~ The method of claim 3, wherein the duty cycle (D) and the current ratio (R) are changed substantially simultaneously.

6. (Currently amended) ~~Method according to~~ The method of claim 3, wherein the duty cycle (D) is changed in response to a user command, wherein the average current (I_{AV}) is measured, and wherein the current ratio (R) is changed in order to effectively maintain the average current (I_{AV}) at its constant value.

7. (Currently amended) ~~Method according to~~ The method of claim 3, wherein the current ratio (R) is changed in response to a user command, wherein the average current (I_{AV}) is measured, and wherein the duty cycle (D) is changed in order to effectively maintain the average current (I_{AV}) at its constant value.

8. (Currently amended) ~~Method according to~~ The method of claim 3, wherein, in response to a user command, the current ratio (R) and the duty cycle (D) are changed in combination while obeying a predetermined relationship between the current ratio (R) and the duty cycle (D).

9. (Currently amended) ~~Method according to~~ The method of claim 3, wherein, in response to a user command, the current ratio (R) and the duty cycle (D) are changed on the basis of information from a memory.

10. (Currently amended) Electronic driver ~~(1)~~ for driving a gas discharge lamp, the driver being designed to perform the method of claim 1.

11. (Currently amended) Method for driving a gas discharge lamp~~, specifically a HID lamp, more specifically a metal halide lamp, most specifically a metal halide lamp with an aspect ratio larger than 3 or even 4, wherein the lamp is~~ supplied with a commutating DC current[[; -]] ~~the method~~, comprising: ~~the step of~~

setting the duty cycle (D) to a value differing from 50%; and

setting the current ratio (R) to a value differing from 1 such ~~as~~ that ~~to obtain a~~ desirable particle distribution inside the lamp is obtained.

12. (Currently amended) ~~Method according to~~ The method of claim 11, wherein a combination of duty cycle (D) and current ratio (R) is set such that the commutating current has an average current intensity equal to zero.

13. (Currently amended) ~~Method according to~~ The method of claim 11, wherein the combination of duty cycle (D) and current ratio (R) is varied in order to vary the efficacy of the lamp and/or to vary the color temperature of the lamp.

14. (Currently amended) ~~Method according to~~ The method of claim 13, wherein the combination of duty cycle (D) and current ratio (R) is varied such that the average current intensity of the commutating current is substantially constant.

15. (Currently amended) ~~Method according to~~ The method of claim 13, for operating a lamp such that the efficacy is substantially orientation-independent and wherein the actual orientation of the lamp is determined.

16. (Currently amended) ~~Method according to~~ The method of claim 11, wherein the lamp is arranged in a vertical orientation, and wherein the combination of duty cycle (D) and current ratio (R) is set ~~such as~~ to reduce~~, and preferably eliminate,~~ segregation.

17. (Currently amended) ~~Method according to~~ The method of claim 11, wherein the combination of duty cycle (D) and current ratio (R) is set ~~such as~~ to increase segregation.

18. (Currently amended) ~~Method according to~~ The method of claim 11, wherein the lamp is arranged in a horizontal orientation, and wherein the combination of duty cycle (D) and current ratio (R) is set such that a shift of the particle distribution is effected, to vary the lamp efficacy and/or to vary the color temperature of the lamp.

19. (Currently amended) ~~Method according to~~ The method of claim 11, wherein the lamp is arranged in a horizontal orientation, and wherein the combination of duty cycle (D) and current ratio (R) is set such that a shift of the particle distribution is effected, setting a color point on a color line at a position differing from a horizontal zero color point.

20. (Currently amended) ~~Method according to~~ The method of claim 11, wherein the lamp is arranged in a vertical orientation, and wherein the combination of duty cycle (D) and current ratio (R) is set such that a shift of the particle distribution is effected, setting a color point on a color line at a position differing from a vertical zero color point.

21. (Currently amended) ~~Method according to~~ The method of claim 19, wherein the combination of duty cycle (D) and current ratio (R) is varied in order to make the color point travel said color line.

22. (Currently amended) ~~Method according to~~ The method of claim 21, practiced on a high-pressure lamp (above 10 atm) arranged in a horizontal orientation, wherein the color temperature is varied over a range having a width in the order of about 1500-2000 K.

23. (Currently amended) ~~Method according to~~ The method of claim 21, practiced on a high-pressure lamp (above 10 atm) arranged in a vertical orientation, wherein the color temperature is varied over a range having a width in the order of about 2500 - 3000 K.

24. (Currently amended) Driving apparatus for driving a gas discharge lamp, ~~specifically a HID lamp, more specifically a metal halide lamp, most specifically a metal halide lamp with an aspect ratio larger than 3 or even 4, according to the method as claimed in claim 1, the apparatus~~ comprising:

[[-]] current generating means for generating a current; and

[[-]] commutating means for receiving said current, and having an output for connecting to a lamp,

the commutating means being arranged for commutating said current with a duty cycle differing from 50% and a current ratio (R) differing from 1.

25. (Currently amended) ~~Driving apparatus according to~~ The apparatus of claim 24, the commutating means being arranged for maintaining the average current intensity equal to zero.

26. (Currently amended) ~~Driving apparatus according to~~ The apparatus of claim 24, wherein the commutating means are arranged for commutating said current with a variable duty cycle.

27. (Currently amended) ~~Driving apparatus according to~~ The apparatus of claim 26, the commutating means being arranged for maintaining the average current intensity constant.

28. (Currently amended) ~~Driving apparatus according to~~ The apparatus of claim 26, wherein the driver further comprises a control input for receiving a control signal, and wherein the driver is responsive to a control signal received at its control input to set the combination of duty cycle (D) and current ratio (R) accordingly.

29. (Currently amended) ~~Driving apparatus according to~~ The apparatus of claim 28, wherein the driving apparatus is provided with a mode selection switch coupled to said control input, the mode selection switch having ~~two preferably three~~ at least two positions.

30. (Currently amended) ~~Driving apparatus according to~~ The apparatus of claim 29, arranged to generate a commutating current with an average current intensity

substantially equal to zero and a predetermined ~~the~~ combination of duty cycle (D) and current ratio (R), said combination depending on the position of the mode selection switch ~~(167)~~ which is related to the orientation of the lamp.

31. (Currently amended) ~~Driving apparatus according to~~ The apparatus of claim 30, wherein the duty cycle (D) has a predetermined first value (D_U) differing from 50% when said mode selection switch ~~(167)~~ is placed in a first position (U) indicative of a standing orientation of the lamp, and wherein the duty cycle has a predetermined second value (D_D) differing from 50% when said mode selection switch is placed in a second position indicative of a hanging orientation of the lamp ~~(1)~~;
and wherein $D_D \neq D_U$.

32. (canceled)

33. (Currently amended) ~~Driving apparatus according to~~ The apparatus of claim 28, adapted for a variable particle distribution shift, wherein the driving apparatus is provided with a control setting device ~~(152)~~ coupled to said control input;
[[-]] wherein the control setting device ~~(152)~~ is arranged for generating a control signal (S_U), which is continuously variable within a predetermined range;
[[-]] and wherein the driving apparatus is arranged to continuously vary the combination of duty cycle (D) and current ratio (R) of the commutating lamp current in response to said control signal.

34. (Currently amended) ~~Driving apparatus according to~~ The apparatus of claim 24, adapted to generate said current with a duty cycle equal to 50% during a start phase of the lamp.

35. (Currently amended) System with automatic orientation-independent efficacy capability, for driving a gas discharge lamp~~, specifically a HID lamp, more specifically a metal halide lamp, most specifically a metal halide lamp with an aspect ratio larger~~

~~than 3 or even 4, the system being capable of operating a lamp with~~ a substantially orientation-independent efficacy, the system comprising:

[[-]] a driver ~~according to~~ as recited in claim 24; and

[[-]] a position detector ~~(80)~~ having at least one output coupled to the control input of the driver; the position detector being arranged for detecting the actual orientation of the lamp, and for generating at its said output a control signal indicative of such orientation.

36. (Currently amended) ~~System according to~~ The system of claim 34, wherein the driving apparatus is responsive to the position detector output signal to set the difference between duty cycle (D) and 50% to a value that depends ~~depending~~ on the position of the mode selection switch which is related to the orientation of the lamp.

37. (Currently amended) ~~System according to~~ The system of claim 34, wherein the driving apparatus is responsive to the position detector output signal to generate a duty cycle having a predetermined first value (D_U) differing from 50% when said position detector output signal has a first value indicative of a standing orientation of the lamp, and wherein said driving apparatus is responsive to the position detector output signal to generate a duty cycle having a predetermined second value (D_D) differing from 50% when said position detector output signal has a second value indicative of a hanging orientation of the lamp, and wherein $D_D \neq D_U$.

38. (Currently amended) ~~System according to~~ The system of claim 36, designed for driving a symmetrical lamp, wherein D_D = 100 % - D_U.

39. (Currently amended) ~~System according to~~ The system of claim 34, further comprising a fitting ~~(168)~~ for receiving a lamp cap ~~(12)~~ of a lamp assembly ~~(10)~~, the fitting having contacts connected to output terminals of the commutator, wherein said position detector is associated with said fitting.